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ABSTRACT

A field test of an evaluation of a teacher education program at Glassboro State College (New Jersey) used 19 preservice teachers as subjects. The evaluation model adopted for the study, CIPP, is an acronym for the four types of evaluation incorporated into one model: context, input, process, and product. Tests administered to students were the Minnesota Teacher Attitude Inventory (MTAI) and the National Teacher Examinations, including both the Weighted Common Examinations Test (WCET) and the appropriate Area Exam for each of the three major areas of study from which these students were drawn. Evidence from this longitudinal study indicated that the scores on the MTAI increased from the freshman year to the middle of the junior year, with the mean for this group dropping somewhat when the students were measured following student teaching. Results from analysis of academic achievement using the WCET scores indicated that there was no change in these students' academic achievement. Four possible explanations are offered for the lack of significant differences over the four years on the general studies portion of the WCET. (JM)

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AN EVALUATION OF A TEACHER EDUCATION PROGRAM

by

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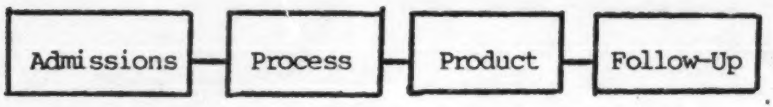
Introduction

The purpose of this paper is to report the results of a field test of an evaluation of a teacher education program. An evaluation plan was prepared at Glassboro State College for its undergraduate teacher education program. Providing the framework for this study is the literature on educational evaluation in general, and specifically Sandefur's (1970) instrumental paper on program evaluation in teacher education. The evaluation model ostensibly adapted for the study reported in this paper is the CIPP model developed by Stufflebeam, et. al. (1971). CIPP is a acronym for the four types of evaluation incorporated into one model: context, input, process, and product. These four evaluation types provided the areas from which evaluation data were gathered.

Figure 1 displays a graphic of the scope of the evaluation model.

Figure 1. Skeleton of Program Evaluation Scope



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Briefly, the data collected in the admissions phase are those typically used in accepting applicants into a program, e.g. SAT and rank in high school class. Process, refers to any measures that are administered to the preservice teachers during the program. For example, the students in this study were given the Minnesota Teacher Attitude Inventory (MTAI) and the National Teachers Exam (NTE) in a repeated measures design during their four years of teacher preparation. Product evaluation refers to those outcome measures that the students are administered upon completion of the program. For the purposes of this paper, the preservice teachers' professional knowledge and general studies knowledge, as measured by the NTE are reported. Follow-up refers to study of the beginning teacher. Since the subjects in this study have just begun their professional career, there are little data worth reporting at this time. This paper will report the results of the process and product evaluation phases.

Methods

Nineteen preservice teachers from the elementary education, special education, and early childhood education programs at Glassboro State College were selected to participate in this study. These students possessed solid academic credentials in that, as a group, their scores on the Scholastic Aptitude Test (SAT) were above average (Table 1).

Table 1. Means and Standard Deviations of SAT (n=19)

Test	$\bar{X}$	s.d.
Verbal	456.7	38.6
Math	499.5	44.1

Their rank in high school class averaged 83.9% (s.d.=10.8) and these students successfully completed all three New Jersey College Basic Skills Tests in reading, writing, and computation upon admission into Glassboro State College. In short, these students represented a group who possessed the skills and aptitude to perform successfully in college.

During the spring semester of each of their four years, these nineteen students were administered the NTE including both the Weighted Common Examinations Test (WCET) and the appropriate Area Exam for each of the three major areas of study from which these students were drawn. The WCET is comprised of four subtests: (1) Professional Education Test (PET); (2) Written English Expression; (3) Social Studies, Literature, and Fine Arts; and (4) Science and Mathematics. According to the test publisher, the Educational Testing Service, the WCET is statistically equated from year to year, and can be subjected to analysis in a repeated measures research design. However, the subtests of the WCET are not equated from year to year and therefore cannot be analyzed for changes over time.

Three times during their teacher education programs, these students were administered the Minnesota Teacher

Attitude Inventory (MTAI) (Cook, Leeds, and Callis, 1951). The MTAI was taken during the fall of the freshman year, prior to pre-student-teaching practicum in the spring of the junior year, and immediately following student-teaching in the fall semester of the senior year.

Data Analysis

Means and standard deviations of the group's scores on each of the four administrations of the WCET were analyzed using an analysis of variance with repeated measures. To locate significant differences between any pair of means a Newman-Keuls post hoc procedure was used (Winer, 1962). The same statistical procedures were used for the three administrations of the MTAI.

Results

The scores on the MTAI are discussed first (Table 2).

Table 2. Means and Standard Deviations of the MTAI (n=19)

Year	$\bar{X}$	s.d.
Freshman	29.1	24.0
Junior	58.0	22.9
Senior	53.5	30.2

The students showed marked increases in their attitudes toward teaching from the freshman through the senior year, $F(2,36) = 25.7$ ($p<.05$). Application of the Newman-Keuls post hoc analysis reveals significant differences between the mean scores of the freshman and junior years ($p<.01$)

and the freshman and senior years ($p<.01$). The decline in scores between the junior year and senior year administrations does not reach significance.

In Table 3, the four means and standard deviations for the WCET are presented. There is an increase in the means for each of the four years.

Table 3. Means and Standard Deviations for the WCET (n=19)

Year	$\bar{X}$	s.d.
Freshman	546.33	39.26
Sophomore	561.85	48.81
Junior	584.68	48.67
Senior	587.11	36.42

There is a significant difference among the four means on the WCET. The students demonstrated continued academic achievement throughout the college experience, $F(3,54) = 12.3$ ($p<.05$). The application of the Newman-Keuls procedure demonstrates that the differences are between the freshman and sophomore means, the freshman and junior means, the freshman and senior means, and the sophomore and junior means ($p<.01$). There is no significant difference between the junior and senior means. One half of the senior year was spent in the professional semester (student-teaching) and the students were not taking courses on campus.

The Professional Education Test (PET) score for each student was then weighted and removed from the overall WCET score for each student. The remaining tests are written

English Expression; Social Studies, Literature, and Fine Arts; and Science and Mathematics. The reason for removing the PET from the WCET is to isolate the general studies portion of the test from the professional studies portion. The means and standard deviations for the partial WCET are presented in Table 4.

Table 4. Means and Standard Deviations for the Partial WCET Scores (n=19)

Year	$\bar{X}$	s.d.
Freshman	341.26	25.69
Sophomore	332.53	34.37
Junior	346.10	32.50
Senior	352.16	23.62

The means were analyzed using an analysis of variance with repeated measures and the results show no significant differences among the means on the general studies component of the WCET $F(3,54)=.63$ (n.s.). These students did not demonstrate growth over the four years in general studies as measured by the NTE. By default then, it seems that there are significant differences among the means on the PET, the measure of professional knowledge. However, because the sub-tests of the WCET are not statistically equivalent from year to year, no analysis of the PET can be conducted to verify the differences among the four means.

Discussion

Evidence from this longitudinal study indicates that

the scores on the MTAI increased from the freshman year to the middle of the junior year (Table 2). However, the mean for this group dropped somewhat when the students were measured following student-teaching. This decline on the post-student-teaching administration of the MTAI from "progressive" toward "traditional" is consistent with previous research (Callis, 1950) and is discussed in greater depth by Zeichner and Tabachnick (1981). The results reported in this study are further evidence that preservice teachers become more progressive (or less traditional) until they encounter school experience, at which time they show the beginning of a slight shift toward traditional.

Results from the analysis of academic achievement using the partial WCET scores indicate that there were no changes in these students' academic achievement. The lack of significant differences over the four years on the general studies portion of the WCET may be attributable to four possible explanations. First, the general studies subtests of the NTE may not be an accurate measure of general studies knowledge. While claims for high reliability (.85-.95) are made by the publisher, there may not be enough test items on each subtest to capture fully the vast body of knowledge connoted by the term, general studies.

Secondly, the sixty credit hours of general studies required by this teacher education program at Glassboro

State are simply not enough to induce a change that can be measured by a standardized test. Further complicating this explanation is the fact that when students are given their program outlines, the courses are typically offered in a wide array of options representing a variety of academic areas. For example, courses in sociology, anthropology, and political science can freely be substituted for one another as Social Science requirements. In many instances, the general studies programs of any two students may vary widely within these broad parameters. A general measure of academic achievement in college coursework would most likely fail to capture the array of each individual's college course experiences, regardless of major, hence emphasizing the conflicting assumptions which may undergird any particular teacher education program and the standardized test.

A third reason relates to the approach a student takes upon entering college. A four-year sequence of courses and field experiences may have limited the amount of attention the students could afford to acquiring the knowledge taught in their general studies courses. This remains an empirical question and one for future research. The question is "Do students select to concentrate solely on (in this case) their education and education-related courses at the expense of their general studies requirements?" If they do demonstrate, through their study habits, such career-orientation and "selective attention", then the

results on the general studies portion of the NTE may be explained by such a phenomenon. In order to gain some insight into this explanation of academic priorities, the grade point average (GPA) of these students' non-education (or related) courses was calculated (despite its weaknesses). Their final non-education GPA was 3.2. It would appear that they had demonstrated competence in their general studies courses, at least as measured by professors' grades. Two broader questions emerge, "What are the effects of college?" and "Can they be measured reliably and with validity?"

The fourth explanation concerns the biased nature of these subjects. All of them attended the same college. Each of them were academically capable students, one of the criteria for inclusion in this study. They were not randomly selected to participate in this study. These factors as well as others may have influenced the data, and therefore the results of this evaluation.

Conclusions

Accepting that the biased nature of the subjects may affect the results of the data analyses, there are still some conclusions worthy of consideration.

The fact that there were significant differences over time on the entire WCET while there were no significant differences over time on the partial WCET (without the PET) can be interpreted that these students increased their

professional knowledge while general knowledge remained the same. Their teacher education program had a positive effect on them as measured by the NTE, but their general studies program had no measurable effect. By isolating the professional knowledge subtest from the general studies test, there is some evidence, through this longitudinal design that the Professional Education subtest of the NTE can serve as a valid measure of professional knowledge.

However, more data are needed to understand the meaning of a score on the NTE. The results of this study point to the PET score on the NTE as being a worthwhile score. It provides an indication that the prospective teacher possesses (or does not possess) professional knowledge. However, the total WCET score may not provide information that is representative of academic achievement.

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